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- (57) Claim

1. An apparatus for detecting the inhalation and exhalation phases of a respiratory cycle having associated respiratory gas flow, said apparatus comprising:

signal production means for producing first and second signals representative of the respiratory gas flow with said signals being time displaced relative to one another and with said signals having respective amplitudes so that one of said signals presents the greater amplitude during at least a portion of one of the phases and so that the other of said signals presents the greater amplitude during at least a portion of the other of said phases; and

processing means for processing said signals for determining therefrom the occurrence of said respective phases and for producing outputs representative of said phases.

30. An apparatus for controlling air flow within a respiratory circuit comprising:

a valve body;

an inlet tube formed within said valve body and connectable to a source of air;

an exhaust port formed within said valve body and in fluid communication with said inlet tube;

an outlet tube formed within said valve body and in fluid communication with said inlet tube and said exhaust port, said outlet tube in fluid communication with an airway of a patient;

a first rotating valve element located within said exhaust port; and

a second rotating valve element located within said outlet tube and along a perpendicular axis with said first rotating valve element for adjustably controlling air flow from said inlet tube to said outlet tube by diverting air through said exhaust port.

Fig. 1.

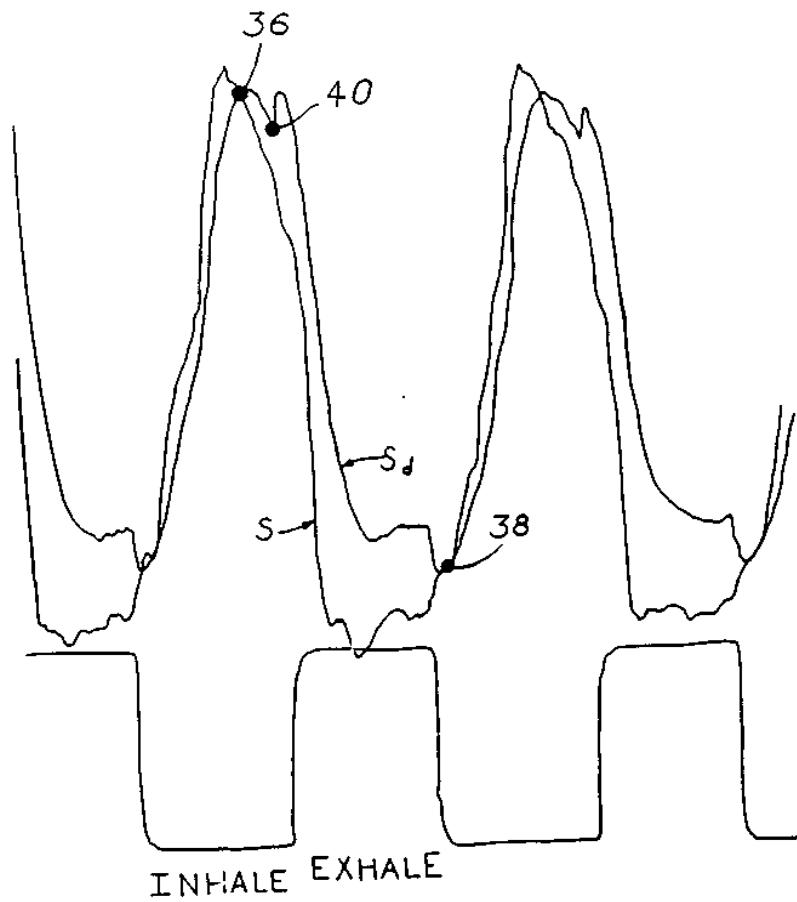
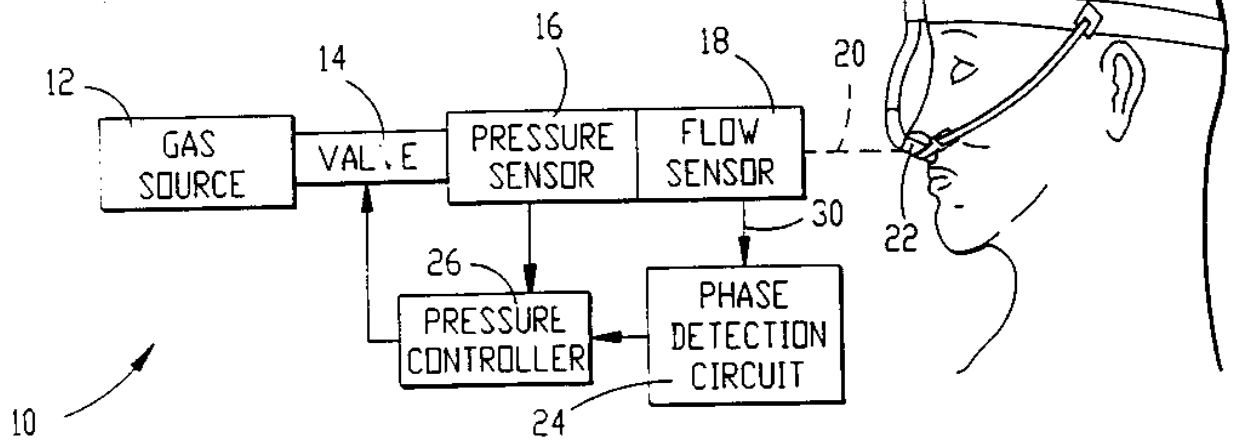


Fig. 3.

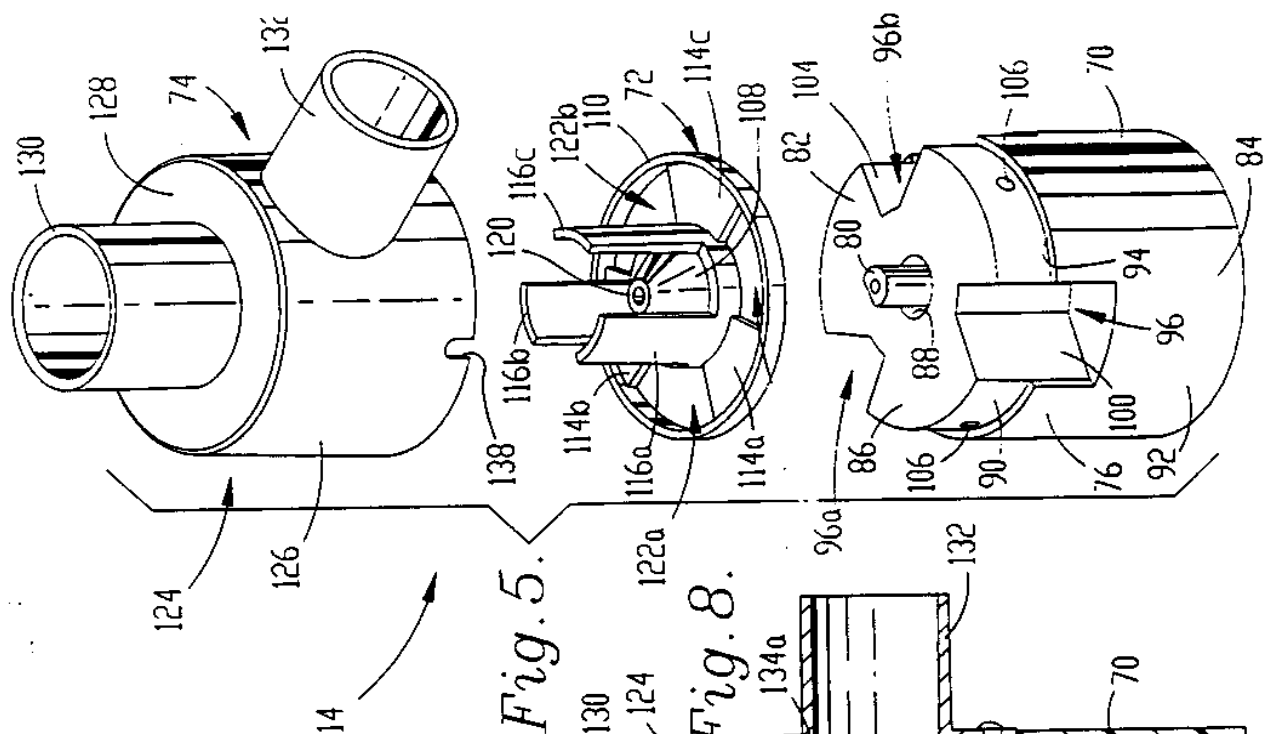


Fig. 5.

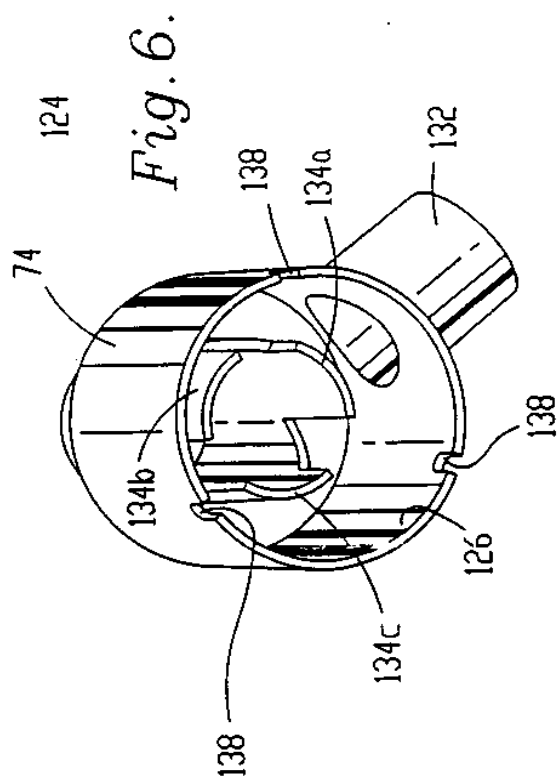


Fig. 6.

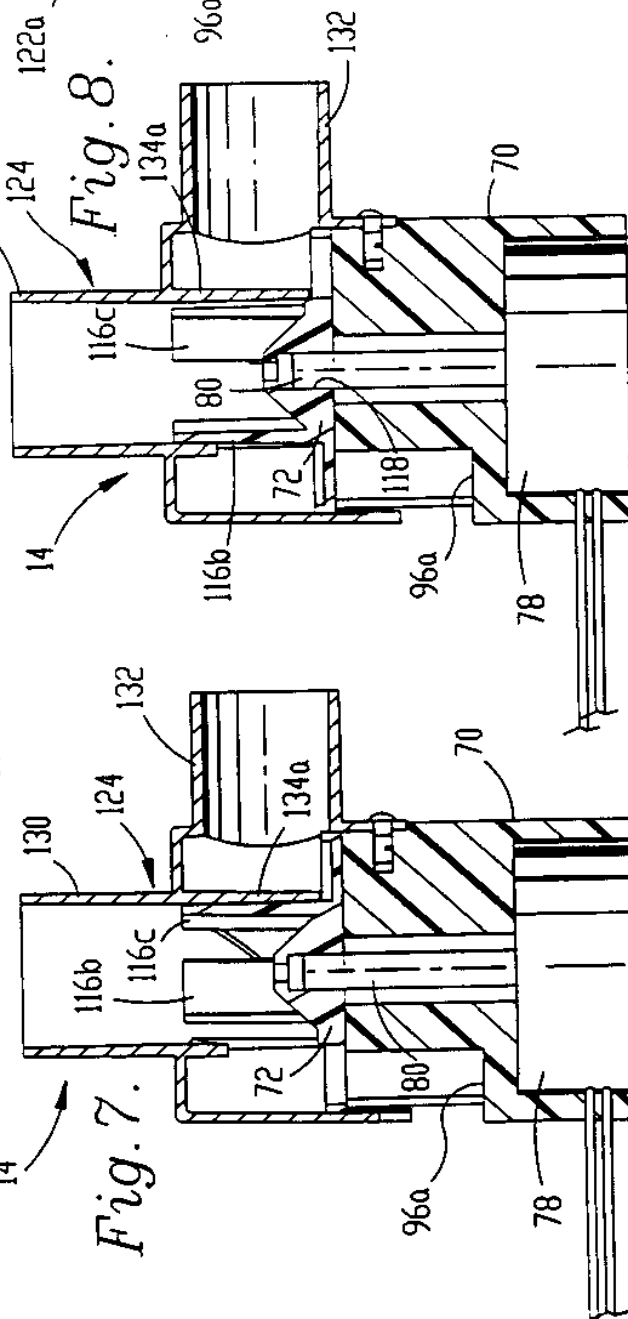


Fig. 7.

Fig. 8.